

CLAIMS

I claim:

Claim 1: A conduit for a fluid,

for placement in a mouth of a user, such user's mouth having lips; an inner cheek wall; dental arches; rear-most teeth with a cheek side, a dorsal side, and a rear corner there between; a rear-jaw gap; and a rear-mouth cavity, said conduit comprising:

- a first open end and a second open end,
- a conduit wall forming an open passageway between said first and second open ends, enabling passage of a fluid through said conduit,
- said conduit having a longitudinal axis and having the following connected portions disposed along said longitudinal axis between said first and second open ends:
 - a first conduit portion adapted to dispose said first open end in a position outside a user's lips;
 - a second conduit portion adapted to be disposed between a user's lips;
 - a third conduit portion adapted to be disposed along a user's inner cheek wall outside a user's dental arches;
 - a fourth conduit portion adapted to curve around a rear corner of at least one of a user's rear-most teeth from cheek side to dorsal side thereof; and
 - a fifth conduit portion adapted to be disposed in a user's rear-jaw gap and connected to said second open end, thereby enabling a user to draw or expel a fluid through said conduit between a user's rear-jaw gap and a position outside a user's lips.

Claim 2: The conduit of claim 1 further comprising:

- said conduit has a sixth conduit portion
- connected between said fifth conduit portion and said second open end, and
 - adapted to extend said conduit from a user's rear-jaw gap to dispose said second open end within a user's rear-mouth cavity,

1 whereby said conduit forms a continuous passageway enabling a
2 user to draw or expel fluid between a user's rear-mouth cavity
3 and a position outside of a user's lips.

4
5 Claim 3: The conduit of claim 1 wherein at least one of said
6 fourth and fifth conduit portions is flexible.

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8 Claim 4: The conduit of claim 2 wherein at least one of said
9 fourth, fifth and sixth conduit portions is flexible.

10
11 Claim 5. The conduit of claim 1, for positioning adjacent to a
12 user's mouth tissues along a user's cheek pathway, wherein
13 - at least one of said fourth and fifth conduit portions is
14 adapted to flex under pressure from a user's adjacent mouth
15 tissues so as to conform approximately to such user's adjacent
16 mouth tissues, and
17 - at least said third conduit portion is sufficiently rigid along
18 said longitudinal axis of said conduit to substantially resist
19 bending under pressure from a user's adjacent mouth tissues,
20 whereby structural interaction between said flexible portion(s),
21 in conforming to a user's mouth tissues, and said rigid
22 portion(s), in resisting bending pressure from a user's mouth
23 tissues, tends to stabilize positioning of said conduit in a
24 user's cheek pathway.

25
26 Claim 6. The conduit of claim 2, for positioning adjacent to a
27 user's mouth tissues along a user's cheek pathway, wherein
28 - at least one of said fourth, fifth and sixth conduit portions
29 is adapted to flex under pressure from a user's adjacent mouth
30 tissues along a user's cheek pathway so as to conform
31 approximately to such user's adjacent mouth tissues, and
32 - at least said third conduit portion is sufficiently rigid along
33 said longitudinal axis of said conduit to substantially resist
34 bending under pressure from a user's adjacent mouth tissues in a
35 user's cheek pathway,
36 whereby structural interaction between said flexible portion(s),
37 in conforming to a user's mouth tissues, and said rigid

1 portion(s), in resisting bending pressure from a user's mouth
2 tissues, tends to stabilize positioning of said conduit in a
3 user's cheek pathway.

4
5 Claim 7: The conduit of claim 1, for placement in a user's mouth
6 at least partially within a user's cheek pouch, further
7 comprising:

8 a spring element, configured for placement in a user's cheek
9 pouch, is joined to said conduit,

10 whereby positioning of said conduit in a user's mouth is
11 stabilized.

12
13 Claim 8: The conduit of claim 1 wherein the spring element
14 includes a resilient filament joined transversely to said third
15 conduit portion.

16
17 Claim 9. The conduit of claim 7 comprising:

18 -said conduit has one or more lacing holes in one or both of said
19 third and fourth conduit portions, and

20 -said spring element is formed of a resilient filament, and

21 -said resilient filament is joined to said conduit by lacing said
22 filament through said lacing holes.

23
24 Claim 10: The conduit of claim 1,

25 improved to enable said conduit to more nearly conform to tissues
26 of a user's mouth,

27 comprising:

28 - said conduit wall and said open passageway form a radial
29 conduit cross-section transverse to said longitudinal axis, and

30 -said conduit has a plurality of connected parts along said
31 longitudinal axis, at least one of which connected parts which is
32 flexible about said radial conduit cross-section,

33 thereby enabling adjustment of said radial conduit cross-section
34 to more nearly conform to tissues of a user's mouth without
35 collapse of said open passageway.

36
37 Claim 11: The conduit of claim 1, improved to enable said conduit

1 to more nearly conform to tissues of a user's mouth,
2 comprising:
3 -- said conduit wall and said open passageway form a radial
4 conduit cross-section transverse to said longitudinal axis, and
5 -said conduit has a plurality of connected parts along said
6 longitudinal axis, at least one of which connected parts which is
7 resilient about said radial conduit cross-section,
8 thereby enabling adjustment of said radial conduit cross-section
9 to more nearly conform to tissues of a user's mouth without
10 collapse of said open passageway.

11
12
13 Claim 12: The conduit of claim 1 wherein said first open end of
14 said conduit includes a plurality of openings through each of
15 which openings a fluid can pass into and out of said conduit
16 passageway independently of other openings in said first open
17 end.

18
19 Claim 13:
20 The conduit of claim 1, further comprising:
21 said second open end of said conduit includes a plurality of
22 openings through each of which openings a fluid can pass into and
23 out of said conduit passageway independently of other openings in
24 said second open end.

25
26 Claim 14: A conduit of claim 1 further comprising:
27 said second conduit portion is adapted to permit a user's lips to
28 close and nearly seal about said second conduit portion.

29
30 Claim 15: A conduit of claim 1 further comprising:
31 at least one retainer element is connected to said first or
32 second conduit portions and adapted to be disposed about a user's
33 lips.

34
35 Claim 16. A dual conduit,
36 for placement along dual cheek pathways located on opposing sides
37 of a user's mouth relative to a user's rear-mouth cavity, rear-

1 jaw spaces, rear-most teeth, dental arches, inner cheek walls,
2 lips, and positions exterior to a user's mouth,
3 comprising:
4 A conduit:
5 - having a rear-mouth-cavity portion
6 -- adapted to be disposed across a user's rear-mouth cavity,
7 and
8 -- having a rear-mouth flow opening disposed to allow fluid
9 to flow between said conduit and a user's rear-mouth cavity;
10 and
11 -- having two opposing rear-mouth ends; and
12 - having two opposing cheek-path portions
13 -- oppositely connected to said two opposing rear-mouth ends
14 of said rear-mouth cavity portion, and
15 -- adapted to oppositely traverse along opposing sides of a
16 user's mouth, through a user's opposing rear-jaw spaces
17 dorsally of a user's rear-most teeth, outside a user's
18 dental arches along inner walls of a user's opposing cheeks,
19 and between a user's lips, and
20 -- each of said two opposing cheek-path portions is adapted
21 to dispose an open end outside a user's mouth to allow fluid
22 to flow between said conduit and a position outside of a
23 user's mouth;
24 whereby said conduit forms dual passageways located on opposing
25 sides of a user's mouth for fluid flow between a user's rear-
26 mouth cavity and positions exterior to such user's mouth.
27
28 Claim 17: A conduit of claim 1, further comprising: an ear piece
29 connected to said first conduit portion and adapted to anchor
30 said conduit about a user's ear.
31
32 Claim 18: A dual conduit of claim 16, further comprising: ear
33 pieces connected to the two opposing cheek-path sections of said
34 conduit and adapted to anchor said conduit about a user's ears.
35
36 Claim 19. A conduit,
37 for passage of a fluid along a user's cheek pathway, from a

1 position outside a user's lips, along a user's inner cheek wall,
2 from the cheek-adjacent side to the dorsal side of at least one
3 of a user's rear-most teeth, and through a user's rear-jaw gap,
4 comprising:

5 First conduit means for providing an open passageway between
6 a position outside a user's lips and the cheek-adjacent side of
7 at least one of user's rear-most teeth, and

8 Second conduit means, connected to said first conduit means,
9 for providing a continuing open passageway dorsally of at least
10 one of a user's rear-most teeth and through a user's rear-jaw
11 gap,
12 whereby said first and second conduit means form a continuous
13 passageway for fluids between a position outside a user's lips
14 and a user's rear-jaw gap.

15
16 Claim 20: A conduit of claim 19,
17 for providing a continuous passageway between a position outside
18 a user's mouth and a user's rear-mouth cavity,
19 further comprising:

20 Third conduit means, connected to said second conduit means,
21 for providing a open passageway between a user's rear-jaw gap and
22 a user's rear-mouth cavity,
23 whereby said first, second and third conduit means combine to
24 provide a continuous open passageway between a user's rear-mouth
25 cavity and a position outside a user's mouth.

26
27 Claim 21. A dual conduit, for placement along both of a user's
28 opposing first and second cheek pathways, comprising,
29 a first conduit of claim 19, for positioning along a user's first
30 cheek pathway, and
31 a second conduit of claim 19 for positioning along a user's
32 second cheek pathway, and
33 rear-mouth cavity conduit means, for spanning across a user's
34 rear-mouth cavity to connect said first conduit of claim 19 and
35 said second conduit of claim 19,
36 whereby dual passageways for a fluid are formed, along a user's
37 first and second cheek pathways, between a user's rear-mouth

1 cavity and positions outside a user's mouth.

2
3 Claim 22. The conduit of claim 1, for positioning in a user's
4 mouth when a dental device also is emplaced in a user's mouth,
5 further comprising:

6 said conduit of claim 1 is configured to be positioned in a
7 user's cheek pathway disposed about a dental device that is
8 engaging at least one of a user's maxillary teeth, mandibular
9 teeth, and palate.

10
11 Claim 23. A combination airway and dental device,
12 for simultaneously supplementing a user's nasal airway and
13 mitigating a user's throat airway restrictions, comprising:
14 the conduit of claim 22, combined with a dental device which is
15 adapted to urge a user's mandible ventrally relative to a user's
16 maxilla.

17
18 Claim 24. The conduit of claim 1, for positioning in a user's
19 mouth when a tongue-control device also is emplaced in such
20 user's mouth to restrict a user's tongue from sagging into a
21 user's throat airway, further comprising:
22 said conduit of claim 1 is configured to be positioned in a
23 user's cheek pathway disposed about a tongue-control device which
24 is adapted to restrict a user's tongue from sagging into a user's
25 throat airway .

26
27 Claim 25. A combination airway and tongue-control device, for
28 simultaneously supplementing a user's nasal airway and a
29 mitigating a user's throat airway restrictions, comprising:
30 the conduit of claim 24 is combined with a tongue-control device
31 which is adapted to restrain a user's tongue from sagging into a
32 user's throat whereby said conduit and said tongue-control device
33 operate cooperatively in a user's mouth.

34
35 Claim 26. A method of manufacturing a conduit of claim 1, for
36 in-line manufacturing enabling post-manufacturing adjustment to
37 fit a user's cheek pathway, comprising the following steps:

1 Selecting a metal or plastic material,
2 Forming said material into a conduit in an in-line configuration
3 and during said forming including flexible portions within said
4 in-line configuration adapting said conduit to be flexed after
5 its formation into a configuration which will fit along a user's
6 cheek pathway.

7
8 Claim 27. A conduit of claim 1 wherein an opening or hole is
9 formed in said conduit wall by the following method:

10 Forming said opening in said conduit wall by localized
11 application of heat.

12
13 Claim 28. A conduit of claim 27 wherein said opening is formed
14 in said conduit wall, said method of forming said opening further
15 comprising:

16 Localized application of heat by at least one of the following:

17 Contacting said conduit wall with a heated instrument

18 Contacting said conduit wall with a flame

19 Focusing laser energy on said conduit wall.

20
21 Claim 29. The conduit of claim 1 wherein at least one of said
22 fourth and fifth conduit portions is rendered flexible by
23 corrugations formed in the conduit wall of said conduit
24 portion(s).

25
26 Claim 30. The conduit of claim 2 wherein at least one of said
27 fourth, fifth and sixth conduit portions is rendered flexible by
28 corrugations formed in the conduit wall of said conduit
29 portion(s).

30
31 Claim 31. A self-stabilizing cheek path airway, for positioning
32 in a user's mouth, at least partially in a user's cheek pouch,
33 comprising:

34 conduit means for providing a passageway for a fluid
35 traversing at least partially through a user's cheek pouch, and
36 cheek pouch anchor means, joined to said conduit means, for
37 stabilizing said conduit means in a user's mouth.

1 Claim 32. The self-stabilizing cheek path airway of claim 31
2 wherein said cheek pouch anchor means further comprises:
3 a resilient filament
4 - which is configured into a plurality of connected loops, each
5 loop having a loop span size, and
6 -said plurality of loops are combined to form a whole spring
7 element with a whole spring element span size, and
8 - each one of said plurality of loop span sizes is mutually
9 adjustable relative to at least one other of said loop span
10 sizes, such that an increase or decrease in the loop span size of
11 any one of said plurality of loops results in a converse decrease
12 or increase in the loop span size of at least one other of said
13 plurality of loops,
14 thereby enabling adjustment of said whole spring element span
15 size by said mutual adjustment within said plurality of loop span
16 sizes.

17
18 Claim 33. A cheek pouch anchor,
19 for placement within a user's cheek pouch to maintain positioning
20 of a work piece in a user's mouth while a user's jaws, inter
21 occlusal space, and lips open and close,
22 comprising:

23 A spring element

24 adapted

25 - to be placed within a user's cheek pouch, and
26 - to compress as a user's jaws close, and
27 - to resiliently expand so as to form and maintain a span
28 bridging across a user's inter occlusal space and a user's
29 lip opening formed as a user's jaws and lips open and close,
30 and
31 - to receive joinder to a work piece, and
32 having structural strength sufficient, when joined to a work
33 piece, to maintain placement within a user's cheek pouch while a
34 user's lips and jaws open and close.

35
36 Claim 34. The cheek pouch anchor of claim 33 wherein said spring
37 element is formed of at least one of the following:

1 metal,
2 plastic,
3 resilient monofilament plastic line.
4

5 Claim 35. The cheek pouch anchor of claim 33 further
6 comprising:

7 said cheek pouch anchor is joined with a conduit for a fluid,
8 which conduit is adapted for placement at least partially in a
9 user's cheek pouch.
10

11 Claim 36. The cheek pouch anchor of claim 33 wherein said
12 spring element comprises:

13 a resilient filament

14 - which is configured into a plurality of connected loops, each
15 loop having a loop span size, and

16 -said plurality of loops are combined to form a whole spring
17 element with a whole spring element span size, and

18 - each one of said plurality of loop span sizes is mutually
19 adjustable relative to at least one other of said loop span
20 sizes, such that an increase or decrease in the loop span size of
21 any one of said plurality of loops results in a converse decrease
22 or increase in the loop span size of at least one other of said
23 plurality of loops,

24 thereby enabling adjustment of said whole spring element span
25 size by said mutual adjustment within said plurality of loop span
26 sizes.
27

28 Claim 37. The cheek pouch anchor of claim 33, improved to
29 dispense a substance within a user's mouth, wherein said spring
30 element is adapted to receive impregnation or coating with a
31 substance which is to be released in a user's mouth.